BRIEF COMMUNICATION

OCCURRENCE AND DISTRIBUTION OF THE INLAND TAIPAN *OXYURANUS MICROLEPIDOTUS* (REPTILIA: ELAPIDAE) IN SOUTH AUSTRALIA

Prior to 1979, only four specimens of the elapid snake *Oxyuranus microlepidotus* were known from South Australia and all were recorded from the extreme northeast of the State. Houston[1] stated that the species only appeared following plagues of the rat, *Rattus villosissimus*. One road killed specimen was found in October 1979 near Clifton Hills Station, and in April 1980 three live specimens and two skin sloughs were collected from the same area[2]. Here we report a further three specimens (two collected) and a skin slough near Clifton Hills Station, at a time when the Diamantina River, Goyders Lagoon and Warburton River were in flood. Aerial examination of flooded areas revealed that water had not covered the flood plain so that small elevated sections throughout the lagoon remained dry.

Goydens Lagoon is an area of Pleistocene to Holocene sediments consisting of gypsiferous sand and clay, overlying lacustrine gypsum beds. The surficial sediment or soil is soft and easily compactable as a result of its high porosity and high content of crystalline gypsum. Throughout the raised areas, on which the snakes were caught, the surface is pocked by shallow depressions, many of which lead down into narrow cracks or cavities up to 200 mm in width.

These holes, which appear to be desiccation cracks enlarged by solution processes, form a labyrinth of tunnels in the ground.

A cutting in a gravel pit, sixteen kilometres south of Clifton Hills Station, exposed a section through this sequence, showing the relationship of the cavities to the sand and underlying gypsum. (Fig. 1).

Two female *O. microlepidotus*, were collected approximately 30 m apart at the edge of Goyders Lagoon, (26°33'S, 139°00'E), adjacent to the Birdsville Track at 0730 hr 28.iii.1981. Ambient temperature was approximately 24°C with 85-95% cloud cover and a slight breeze. A skin slough was found in the same area. Both snakes attempted to escape down the holes which were abundant in the area. The lizard *Tympanocryptis tetraporophora* was previously noted to use these holes.

An additional *O. microlepidotus* was observed but not captured, 7 km southwest on 30.iii.1981 at 0810 hrs. The air temperature was also 24°C with no wind and followed by 15 mm rain the previous afternoon. The area in which the snake was observed is subjected to occasional inundation by the Warburton River. The snake remained motionless with its head aloft and was approached to within 1.5 m. After three minutes it began

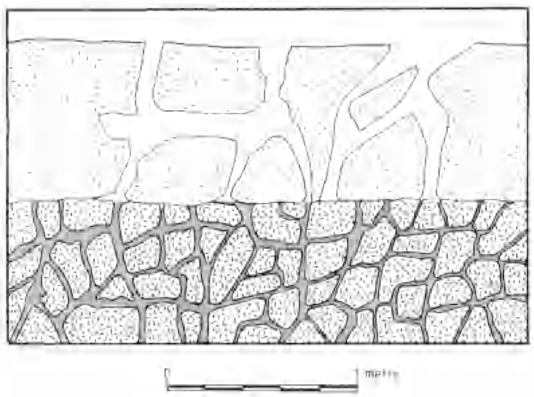

FIGURE 1. DIAGRAM SHOWING SOLUTION CAVITIES IN GYPSIFEROUS SAND AND CLAY, OVERLAYING BEDDED GYPSUM, CLIFTON HILLS AREA, SA.

to move off; upon being disturbed by touch, the snake quickly withdrew its tail, hissed, and slowly moved toward a solution hole about 20 m away.

After collection of specimens in 1980 and 1981 Mr F. Wilson of Clifton Hills, recognised the species and supplied further observations. He gave co-ordinates for 22 other sightings in Goyders Lagoon and the Warburton River, ranging from 139°10'E, 26°35'S to 138°45'E, 27°97'S. The data are treated with caution because there may be confusion with *Pseudonaja* species[3].

Current knowledge permits the interpretation that *O. microlepidotus* is a permanent resident on the flood plains of the Diamantina River, Goyders Lagoon and Warburton River. An additional specimen was collected by the N.P.W.S. on a Cooper Creek flood plain north of Moomba since the March expedition (D. Mount pers. comm.).

Observations of the nature of the terrain derived from aerial surveys of the Warburton

River and the Kallakoopah Creek, indicate that the species could extend to Lake Eyre.

Of the specimens collected, four are kept by P. Mirtschin at the Whyalla Fauna Park for breeding studies. The other is under the care of Mr J. Bredl at Renmark.

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[1]**Houston**, T. (1973). *In*: South Australian Year Book 8, 32-42.

[2]**Mirtschin, P. J.** (1981). Herpetofauna 13, 20-23.

[3]**Covacevich, J.** (1981). Division of Health Education & Information, Qld, p. 78.

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